

## WCC Modelling Protocol

### Advice Note 01 – Model Licensing

#### Modelling Protocol Overview

1. Warwickshire County Councils Modelling Protocol has been produced to provide guidance to developers and their consultants on the application of WCCs traffic models for the purpose of informing development assessments.
2. The Modelling Protocol has been produced to explain Warwickshire County Council's (WCC) requirements for traffic modelling; the model scoping process; and how access and use of WCC's suite of models is controlled.

#### Background

3. The National Planning Policy Framework (NPPF)<sup>1</sup> requires transport issues to be considered from the earliest stages of considering development proposals including the identification of any impacts and appropriate opportunities for avoiding and mitigating the impacts. It also requires developments which are predicted to generate significant amounts of movement to be supported with a Transport Assessment.
4. In this context, where the scale of development justifies the need for a detailed assessment to be undertaken, WCC expects developers and their consultants to utilise WCCs traffic models to inform the associated Transport Assessments.
5. Policy Position MS4 of Warwickshire County Council's fourth adopted [Local Transport Plan](#) states:  
*"We will take evidence-based decisions which may include requirements from developers for transport assessments, travel plans, modelling assessments and other appropriate data. These decisions require specific technical data, such as the use of micro-simulation modelling techniques to support Transport Assessments, where appropriate, in accordance with our **Modelling Protocol**. The Council will publish and regularly review this protocol and will work with applicants to assess the individual requirements for the sites/areas being developed."*
6. WCC require Transport Assessments or Statements to be submitted to support planning applications where appropriate, in accordance with LTP4 (Policies MS1, MS4 and MS6) and the National Planning Policy Framework (NPPF).

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<sup>1</sup> <https://www.gov.uk/guidance/national-planning-policy-framework>

7. Where development is proposed, WCC will use the thresholds set out within the Protocol to determine if the use of Micro-Simulation modelling is required to support the Transport Assessment.

### **Purpose of This Note**

8. This Advice Note provides a general overview of the Protocol and WCC's modelling expectations. It is expected to be read in conjunction with all other relevant protocol advice notes.

### **Benefits of the Approach**

9. WCC encourages developers and their consultants to adopt the approach and adhere to the guidelines set out within this Protocol when undertaking development assessments.
10. By undertaking assessments in accordance with the Protocol, developers and their consultants will ensure that WCC is able to consider their proposals in a manner which is **consistent** with other development proposals being promoted within the County.
11. WCC considers that the process is also **transparent**, the models have been subject to verification to ensure suitability and all key assumptions within and metrics from the models are available for review in advance. The independent verification, and also WCC's ability to utilise their own *in house expertise* also means that the necessary level of **technical assurance** can be afforded to the development assessment process as a consequence of adopting WCC's models and adhering to the Protocol.
12. Finally, it should also be recognised that WCC has invested significantly in developing these models which negates the need for developers to undertake development of the models prior to an assessment being undertaken. By negating the need for developers to create their own models there is also a significant reduction in the amount of technical evidence which needs to be reviewed prior to the point at which the development impacts, identified through the traffic modelling, can be reviewed. This provides a significant advantage to developers and their consultants as it **derisks** the modelling process on the basis that a significant amount of the technical work is already agreed prior to the assessment commencing. Furthermore, reducing the amount of information which needs to be reviewed and agreed prior to the assessment also significantly **expedites timescales** for any necessary reviews as the initial models are agreed and, provided the approach set out within the protocol has been adhered to, the assumptions applied, and modelling completed will be within the prescribed limits set out within the Protocol and thereby simplifying the agreement process.

### **Roles and Responsibilities**

13. The use of WCCs models is to be agreed with WCC in advance. WCC will agree, through scoping, the suitability of the modelling methodology to address WCCs requirements with regards the assessment of development impacts.
14. WCC do not take any responsibility for the use of WCCs traffic models for purposes other than engaging with WCC. If modelling is required to satisfy other stakeholders such as National Highways or neighbouring authorities. It is expected that the licensee will engage with all stakeholders to ensure that any approach which relies upon the use of WCC microsimulation models is accepted.
15. The acceptability of the model for use will be subject to checking at the time of release and as well as any issues identified at the scoping stage. This will result in confirmation that the use of the model, for the intended purpose, is acceptable to WCC only.
16. It is not the responsibility of WCC or WCCs modelling consultants to confirm the acceptability of the model or proposed approach for other stakeholders.
17. Similarly, when engaging WCCs modelling consultants it should be noted that they should not be engaged in the production of interpretation arising from the modelling outputs. It is the responsibility of the licensee, through engagement with WCC to provide commentary on the acceptability or otherwise of outputs derived from the county's suite of traffic models.

### **Modelling thresholds**

18. WCC require that developments are assessed using micro-simulation models where:
  - the trips associated exceed a threshold of 200 trips generated during the AM, PM or Saturday 3-hour peak periods and is situated in an urban area;
  - the development creates a significant alteration to the highway network.
  - The development is located at a point on the network considered to be of strategic importance; or
  - The development is located at a point on the network considered to be significantly constrained
  - The development, or traffic from it, is likely to be concentrated in areas of sensitivity due to environmental constraints (e.g. within an AQMA) or Council Member or public concerns, particularly in areas where highway safety is considered to be an issue.

19. WCC will consider the context and scope of each development and decide whether micro-simulation modelling is required. Where micro-simulation modelling is not required any junction modelling undertaken should also be completed in accordance with the modelling protocol.

### **Geographical coverage of models**

20. Where no model coverage exists for the area being considered the developer will need to discuss the best approach to developing a suitable microsimulation model. WCC will under certain circumstances be willing to develop a model in order to undertake the assessment and licence this to the developer.

### **Developments with Masterplans**

21. When a developer considers that it is necessary to produce several planning applications which form part of an overall masterplan for a specific site, WCC will consider bespoke licencing arrangements.

### **Neighbouring authorities**

22. Undertaking microsimulation modelling for WCC does not negate the need to consider appropriate modelling assessment required by neighbouring authorities. For instance, where a development lies in close vicinity to the County boundary there may be a need to assess the impacts of the development within Warwickshire in line with the Modelling Protocol whilst the assessment may also need to be undertaken in line with the relevant neighbouring authorities requirements. Under certain circumstances it may also be necessary to inform the modelling within Paramics from wider strategic models such as CASM.

### **Junction modelling**

23. Where WCC consider there to be impacts which require further investigation it is expected that the developer exports Demand Flows from the relevant Paramics model to inform isolated junction modelling. A number of LinSig models are available through our Traffic Control and Information System team (please contact them directly to obtain access [tcis@warwickshire.gov.uk](mailto:tcis@warwickshire.gov.uk), these are not covered under the microsimulation model licence and so may be subject to additional access charges.

24. Where isolated junction modelling is required, WCC will require the following;

- All input and output electronic files (i.e. vpo , .vpi , .lsgx)
- Reporting on any changes to the default settings and any assumptions made (e.g. changes to intercept values, use of pedestrian facilities to simulate blocking back).
- Use of queue markers to report on maximum and average queue lengths.
- Queuing may need to be plotted on a plan where one or more junctions require modelling or are affected by blocking back and queuing conditions.

### **Local Plan assessments**

25. Where a developer requires access to a model to assess impacts to inform the Local Plan process and provide evidence for an EiP (i.e. prior to needing to undertake a full TA for a planning application), WCC will offer the developer access at 50% of the full licence fee at the time of application, on the understanding that the remaining balance would be paid at application stage.

### **Model scoping and trip rates**

26. WCC will decide the specific requirements for micro-simulation model use and advise the developer or consultant on the most appropriate methodologies dependent on:

- Development trip rates during the two modelled 3 hr peaks.
- Location of development and nature of the local road network.
- Planned mitigation on the highway network.

### **Trip rates**

27. Evidence of trip rates for each use class within the development (covering 3 hour AM and PM peak and Saturday peaks), site location and proposed access arrangement (if known at this stage) should be submitted to WCC prior to model scoping meetings. This will assist WCC in ascertaining the modelling requirements and appropriate model access fees.

28. Trip rate estimation should preferably be based upon TRICs outputs following logical and best practice methodologies. Selected sites should be reflective of development type/use, location (e.g. town centre/out of town, should exclude London and Irish sites and should represent “shire” type examples where possible), should take into account local populations and should also have a reasonable sample size. A common sense approach should be adopted, where a reasonable sample size cannot be achieved, selection parameters may need to be relaxed.

29. WCC would encourage developers to submit trip rates based on current trip rate forecasts and evidence based forecast trip rates (which should be related to the mitigation measures suggested by the developer).
30. WCC does not consider it appropriate to assume or apply generic reductions to trip rates to account for mode shift. WCC does not consider generic intent (as would be demonstrated by an outline travel plan or reliance on existing area characteristics) as being sufficient to support future aspirations for the promotion of active and sustainable modes of transport through the development proposals.
31. Trip rates should be provided to WCC which do not account for mode shift and then, subsequent trip rates provided which consider the effects of mode shift on an evidential basis linked to direct measures and any necessary delivery mechanisms.
32. WCC recognises that it is critical that measures to promote active and sustainable modes of transport are maximised and expects that developers will support this aspiration by providing suitable evidence, in their calculations, to provide WCC with confidence that the proposals are realistic and relevant to both the development proposals and surrounding community.
33. WCC will assess the trip rate evidence and consider whether proposed modal shift levels can realistically be accommodated within existing and proposed mitigation measures and therefore whether the related trip rate is suitable for use in the modelling. If, in our professional opinion, the proposed modal shift cannot be achieved, WCC will work with the developer to establish a more realistic level of modal shift to adopt in the testing.
34. Trip rates should be agreed with WCC and other authorities involved in the process (e.g. Highways England, neighbouring authorities) prior to engaging in modelling work.

### **Retail developments**

35. For retail assessments, WCC are agreeable to discounting of trips to represent linked, transferred, diverted and pass by trips. However agreement should be sought prior to commencing any modelling work on the magnitude and method of such calculations and the resulting trip generation levels being proposed.

### **National Highways Strategic Road Network**

36. Where the developer's site is close to National Highways Strategic Road Network (SRN), the requirements described in this protocol should be specified in consultation with National Highways.

**Licence agreement and fees**

37. In order to access one of the models for use in your assessment, please would you sign (on the final page) and return the licence agreement on behalf of the licensee.
38. The model licence fee is based on the total number of vehicle trips arriving and leaving the development site over the 6-hour modelled weekday period (i.e. 0700-1000 and 1600-1900), or the 3 hour modelled period on Saturdays (1100-1400), whichever is the higher figure. WCC will need to agree this with before the model licence fee may be confirmed.
39. Once WCC have agreed the licence fee, please complete and return the fee schedule. WCC will then arrange for an invoice to be raised for payment. Please confirm who this should be sent to with their contact details.
40. Model access fees are reinvested into data and model development to ensure WCC have an up-to-date modelling suite for development assessments.

**Clause:** *The model licence fees are subject to annual pricing reviews and may increase over time. Where WCC has agreed to a split payment to enable early access for Local Plan modelling to inform site representations, 50% of the fee is due immediately and the remaining 50% paid prior to undertaking planning application stage modelling. Any increase in the applicable fee band which is implemented before the second payment becomes due will be applied to the outstanding balance. As such, the remaining 50% will be charged at the current fee rate at the time of payment. Any changes to the fee schedules will be publicised on the model licence web pages.*

**Model assessment protocol**

41. There are two options regarding progressing the modelling work itself as follows:
42. **Option 1** - commission WCC's modelling consultants to undertake the modelling work on your behalf. The consultants will issue you with a proposal for undertaking the work inclusive of their fee. Please note that the consultant costs associated with the modelling work would need to be borne by the licensee or their client in full and are not covered by the model licence fee.
43. The modelling consultants are expected to produce a results spreadsheet which WCC would request is submitted, alongside all models and log runs, as part of the evidence basis to support a development assessment.
44. WCC has two tiers of modelling consultants available through our modelling framework. Under option 1, there would be no requirement for the Tier 1 modelling consultants work to be independently audited so the last box in the fee schedule 'The Approved Auditor' may be left

blank. Tier 2 consultants work may still need to be audited depending upon the selected consultant, this should be confirmed with WCC prior to submitting the signed licence agreement.

45. **Option 2** - undertake the modelling yourselves or use a third-party consultant. Under this option, you would be required commission our Tier 1 modelling consultant to audit your modelling work including documentation of the approach you have followed. If VM identify any problems likely to affect the validity of the model output, you would need to address these prior to submission to WCC.
46. Please note that any costs associated with the audit would need to be borne by the licensee or their client in full and are not covered by the model licence fee.